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School Climate and Risky Behaviors Among Rural Adolescents

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The present study sought to determine whether rural high school students' positive perceptions of their school climate could make it less likely that they would engage in or be exposed to risky behaviors, and if students' gender and grade moderated this association. School climate is a construct that consists of the following five major dimensions: Safety, Relationships, Teaching and Learning, the Instructional Environment, and the School Improvement Process, although this final dimension was not assessed in the current study (Thapa, Cohen, Guffey, and Higgins-D'Alessandro, 2013). The specific risky behaviors that were examined in this study were delinquent behaviors, victimization, substance use, and sexual risk-taking (Varjas, Henrich, & Meyers, 2009; Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Wang, Selman, Dishion, & Stormshak, 2010; Kasen, Cohen, & Brook, 1998; O'Brennan & Furlong, 2010; Kumar, O'Malley, & Johnston, 2008). In order to evaluate whether the hypothesized connection existed, the author analyzed archival data collected from students attending high schools in a rural Midwestern county. The data that were utilized for this study were from surveys that assessed students' perceptions of their school climate and the degree to which they engaged in or were exposed to the aforementioned types of risky behaviors. The results of this study suggest that the Relationships

dimension of school climate is particularly important for students attending schools in rural areas. Results additionally suggest that students in lower grades are more likely to be victimized than students in higher grades. More specific findings, implications, and future directions, are also discussed in this paper.

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CHAPTER I

SCHOOL CLIMATE AND RISKY BEHAVIORS AMONG RURAL ADOLESCENTS

According to a study conducted by Atav and Spencer (2002), students attending schools in rural areas are more likely than students attending schools in urban and suburban areas to engage in risky behaviors, such as substance use and sexual risk-taking. These findings are more concerning when considering the finding that adolescents who engage in sexual risk-taking and abuse substances more frequently are at a greater risk of depression than those adolescents who engage in sexual risk-taking and abuse substances less frequently (Hallfors, Waller, Bauer, Ford, & Halpern, 2005). Given this connection between risky behaviors and depression, it is likely that students attending schools in rural areas have a greater need for mental health services than those students attending schools in urban or suburban areas.

Unfortunately, however, students in rural settings have limited access to support services outside the school environment (Clopton & Knesting, 2006). Because of this limited access, mental health support staff employed in rural schools are in higher demand for a greater proportion of students than they would be in schools in suburban and urban settings (Clopton & Knesting, 2006). This reality not only places greater stress on these support staff, but also makes it nearly impossible for them to meet the mental health needs of the students they serve (Clopton & Knesting, 2006). Given the aforementioned finding that increased students' engagement in risky behaviors precedes

their feelings of depression, it would likely be beneficial to find a method of decreasing students' engagement in risky behaviors.

According to Huebner, Suldo, and Gilman (2006), students who are resilient, those students who are better able to cope with stressors, are less likely to experience the aforementioned negative outcomes associated with risky behaviors. Because of these positive findings, many researchers have investigated the ways in which resiliency can be promoted. One important factor that has been found to increase resiliency is life satisfaction (Huebner et al., 2006). The construct of life satisfaction is made up of a variety of different domains (Huebner et al., 2006). One such domain, which is particularly relevant for children and adolescents, is satisfaction with school (Huebner et al., 2006). One of the primary methods that are used in order to measure satisfaction with school is school climate (Suldo, Riley, & Shaffer, 2006).

School climate is a construct that examines how students, teachers, and other school staff members perceive the social, emotional, and academic environment of their school (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Because many different factors account for these school climate perceptions, Thapa et al. (2013) have conceptualized school climate as comprising five major dimensions: Safety, Relationships, Teaching and Learning, Institutional Environment, and the School Improvement Process. Each of these five major dimensions is more clearly defined by 2 or 3 minor dimensions (National School Climate Center, 2014). Table 1 shows how each of these 12 minor dimensions load onto the major dimensions.

The Rules and Norms, Sense of Physical Security, and Sense of Social-Emotional Security minor dimensions load onto the major dimension of Safety (National School

Table 1
Twelve Dimensions of School Climate

Major Dimension	Minor Dimension	Description
Safety	Rules and Norms	Rules about physical violence, verbal abuse, harassment, and teasing clearly communicated and consistently enforced.
	Sense of Physical Security	Students do not fear physical harm at school.
	Sense of Social-Emotional Security	Students do not fear verbal abuse, teasing, or social exclusion at school.
Relationships	Respect for Diversity	Students, teachers, and other school staff feel their individual differences are respected.
	Social Support from Adults	Students feel that adults in their school are supportive and caring.
	Social Support from Students	Students feel that students in their school are supportive and caring.
Teaching and Learning	Support for Learning	Teachers encourage students to take charge of their academic learning, help students to learn to be more successful, and ensure that they attend to each student individually.
	Social and Civic Learning	Teachers and other school staff support students in learning to work cooperatively and be respectful of others, as well as how to be responsible.
Institutional Environment	School Connectedness/Engagement	Students, their families, teachers, and other school staff associate positive feelings with their school.
	Physical Surroundings	Students, their families, teachers, and other school staff feel that the school is clean, orderly, looks appealing, and has enough resources and materials in order to support them effectively.
School Improvement Process	Leadership	The administration of a school communicates clearly and is willing to help teachers and other school staff achieve school-wide goals.
	Professional Relationships	Teachers and other school staff have strong relationships that allow them to work together in an effective manner.

Adapted from the National School Climate Center (n.d.)

Climate Center, n.d.). According to the National School Climate Center (2014), the Rules and Norms minor dimension is fulfilled when rules about physical violence, verbal abuse, harassment, and teasing are clearly communicated and consistently enforced by school staff. The Sense of Physical Security minor dimension is met when students do not fear being harmed physically while they are at school, whereas the Sense of Social-Emotional Security minor dimension is met when students do not fear being abused verbally, teased, or excluded socially by other students (National School Climate Center, n.d.). Thapa et al. (2013) highlight the importance of the major dimension of Safety by recognizing the fact that safety is one of the fundamental human needs that was introduced by Maslow in 1943.

The major dimension of Relationships is defined by the minor dimensions of Respect for Diversity, Social Support from Adults, and Social Support from Students (National School Climate Center, n.d.). The Respect for Diversity minor dimension is fulfilled when students, teachers, and other school staff feel as though their individual differences are, and should be, respected by other students, teachers, and other school staff (National School Climate Center, n.d.). The Social Support from Adults and Social Support from Students minor dimensions are met when students feel as though the adults or the students in their school, respectively, are supportive and caring of them from both academic and non-academic standpoints (National School Climate Center, n.d.). The major dimension of Relationships is particularly important to examine given that almost everything that occurs in school buildings during the day requires people to interact with and relate to each other (Thapa et al., 2013).

Another major dimension of school climate, Teaching and Learning, consists of the minor dimensions of Support for Learning and Social and Civic Learning (National School Climate Center, n.d.). The Support for Learning minor dimension is supported when teachers encourage their students to take charge of their own academic learning, help their students to learn how to be more successful, and ensure that they attend to each student individually (National School Climate Center, n.d.). The Social and Civic Learning minor dimension is fulfilled when teachers and other school staff support students in learning to work cooperatively with and be respectful of others, as well as how to be responsible for themselves (National School Climate Center, n.d.).

The fourth major dimension is the Institutional Environment, which consists of the minor dimensions of School Connectedness/Engagement and Physical Surroundings (National School Climate Center, n.d.). The minor dimension of School Connectedness/Engagement is supported when students, their families, teachers, and other school staff associate positive feelings with their school, which encourages them to become involved in the school's extracurricular activities (National School Climate Center, n.d.). The Physical Surroundings minor dimension, on the other hand, is fulfilled when students, their families, teachers, and other school staff feel that the school is clean, orderly, looks appealing, and has enough resources and materials in order to support effectively students, their families, teachers, and other school staff alike (National School Climate Center, n.d.).

The final major dimension of school climate, the School Improvement Process, consists of the minor dimensions of Leadership and Professional Relationships. The minor dimension of Leadership is supported when the administration of a school

communicates clearly and is willing to help teachers and other school staff achieve school-wide goals (National School Climate Center, n.d.). The Professional Relationships minor dimension is fulfilled when teachers and other school staff have strong relationships that allow them to work together in an effective manner (National School Climate Center, n.d.). Given that the current study is focusing on students' perceptions of school climate, however, the major dimension of the School Improvement Process will not be further discussed or assessed in this study.

School climate has been linked to risky behaviors in previous research (e.g., Hamre & Pianta, 2001; Varjas, Henrich, & Meyers, 2009; Wang, Selman, Dishion, & Stormshak, 2010). The term "risky behaviors" has been defined in previous research as "behaviors that contribute to the leading causes of morbidity and mortality among youth and adults" (Eaton et al., 2012, p. 1). Since 1991, the Centers for Disease Control and Prevention have been monitoring the risky behaviors that high school aged youth engage in and are exposed to through the use of the Youth Risk Behavior Survey (Eaton et al., 2012). This survey examines six different categories of risky behaviors that are of concern for high school youth: violent and injurious behaviors, sexual behaviors, alcohol and drug use, tobacco use, dietary behaviors, and exercise behaviors (Eaton et al., 2012). The majority of research studies that examine risky behaviors include one or more of these six categories.

School Climate and Risky Behaviors

According to Cohen, McCabe, Michelli, and Pickeral (2009), empirical research highlighting the association between school climate and student outcomes first came to light in 1963 when Hapin and Croft investigated the various effects that school climate

can have on student learning and development. Indeed, many more recent studies have demonstrated that the various dimensions of school climate can affect students' engagement in risky behaviors and that students' gender, age, and grade may moderate this relation (e.g., Hamre & Pianta, 2001; Varjas, Henrich, & Meyers, 2009; Wang, Selman, Dishion, & Stormshak, 2010). The connection between school climate and risky behaviors is important given that many psychological disorders present in high school students are preceded by students' engagement in and exposure to a variety of risky behaviors, such as having sexual intercourse, using elicit substances, and being involved in bullying behaviors (Hallfors et al., 2005).

Although many studies have demonstrated a decrease in student engagement in risky behaviors when there is an existing student-perceived positive school climate, few studies have investigated this relation solely in a rural setting. The purpose of this study, therefore, was to examine whether the aforementioned association between school climate and risky behaviors is present in schools in rural settings, as well as whether any demographic variables, such as gender, age, and grade, altered this association. This research question is especially important given the finding that students attending schools in rural areas are significantly more likely than students attending schools in urban and suburban areas to engage in risky behaviors, such as substance use, sexual risk-taking, and carrying weapons (Atav & Spencer, 2002). Research has also found that sexual risk-taking and substance abuse leads adolescents to be at a greater risk of depression (Hallfors, Waller, Bauer, Ford, & Halpern, 2005). Given this connection between risky behaviors and depression, it is not surprising that students attending schools in rural areas

have a greater need for mental health services than those students attending schools in urban or suburban areas (Roberts, Battaglia, & Epstein, 1999).

These findings are even more concerning when considering the fact that students in rural settings have limited access to support services outside the school environment (Clopton & Knesting, 2006). Because of this limited access to support services, school psychologists, social workers, and other support staff are in more demand for a greater proportion of students than they would be in schools in suburban and urban settings, which not only places greater stress on these support staff, but also makes it nearly impossible for support staff to meet the mental health needs of all of the students they serve (Clopton & Knesting, 2006). If school climate improvements lead to rural high school students' decreased risky behaviors, and therefore improve their social and emotional functioning of students, the demand for services from support staff will likely decrease, which will allow them to provide sufficient support to the students who require their assistance.

Methodology

To investigate whether an increased positive school climate decreases rural high school students' engagement and exposure to various risky behaviors, as moderated by gender and grade, archival data collected from approximately 260 ninth through twelfth grade participants (118 females) attending one of four high schools in a rural lower-middle class Midwestern county were analyzed. The majority of participants were Caucasian (86.9%). Four dimensions of school climate were examined as predictor variables, namely Safety, Relationships, Teaching and Learning, and the Institutional Environment (Thapa et al., 2013). The criterion variables, delinquent behaviors

(weapon-carrying, physical violence, stealing, and skipping school), victimization, substance use (including the use of alcohol, tobacco, and marijuana), and sexual risk-taking, were measured using selected questions from the 2011 State and Local Youth Risk Behavior Survey (Eaton et al., 2012; Varjas, Henrich, & Meyers, 2009; Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Wang, Selman, Dishion, & Stormshak, 2010; Kasen, Cohen, & Brook, 1998; O'Brennan & Furlong, 2010; Kumar, O'Malley, & Johnston, 2008). The moderator variables were gender and grade.

CHAPTER II

LITERATURE REVIEW

General Literature Review

Safety

A research study conducted by Varjas et al. (2009) brings to light the association that likely exists between students' feelings of safety at school and their engagement and exposure to risky behaviors. Specifically, with a racially diverse sample of 437 6^{th} – 8^{th} grade students who all attended the same middle school in an urban area in the Southeastern United States, Varjas et al. (2009) examined the relation between safety and the risky behaviors of bullying and victimization in all of their various forms. During their participation in this study, students completed the Student Survey of Bullying Behavior – Revised 2 (Varjas, Meyers, & Hunt, 2006), plus 8 extra questions about cyber-bullying and cyber-victimization (Varjas et al., 2009). The Student Survey of Bullying Behavior – Revised 2 contains questions that ask students about their experiences with bullying and victimization, as well as their perceptions of their safety at school.

Varjas et al. (2009) found that students who reported bullying others physically or vebally and/or reported being physically, verbally, or relationally victimized were less likely to report feeling safe at school than those students who did not report bullying others or being victimized in these ways. The researchers also found that male students were more likely to report being victimized physically and verbally, as well as bullying

others verbally, than female students (Varjas et al., 2009). They also found that male students were less likely to be victimized relationally than female students (Varjas et al., 2009). Despite these findings, male students reported feeling safer at school overall than female students did, which suggests that relational forms of bullying and victimization may be more strongly associated with students' feelings of safety at school than their physical and relational forms. It should also be noted that the researchers found that older students were less likely to be victimized physically, verbally, or relationally and were also less likely to bully others physically or verbally (Varjas et al., 2009). Given that older students reported fewer instances of bullying others and being victimized by others in the aforementioned categories, it follows that the researchers also found that older students reported feeling safer in school (Varjas et al., 2009).

In addition to these results, the researchers collapsed the various forms of bullying into one latent variable of bullying, and the various forms of victimization into one latent variable of victimization (Varjas et al., 2009). By doing this, the researchers were able to find that students who bullied others more often were also more likely to experience a greater amount of victimization (Varjas et al, 2009). The researchers were also able to find that students who were victimized less by others were more likely to feel safe at school (Varjas et al., 2009). This connection, however, did not exist between bullying behaviors and school safety (Varjas et al., 2009). The overall findings of this study, therefore, suggest that students are more likely to feel safer in school if they are involved with fewer risky behaviors, specifically those related to victimization. Further, it is likely that males and older students are more likely to feel safer at school because they are

targets of the various forms of victimization less often than female students and younger students.

Although the aforementioned study suggests that the degree to which students are victimized predicts how safe they will feel at school, a study conducted by Gottfredson, Gottfredson, Payne, and Gottfredson (2005) suggests the opposite association. Specifically, these researchers found that students who perceive that their school rules are clear and fair are less likely to engage in risky behaviors (Gottfredson et al., 2005). For this study, risky behaviors are defined as damaging school property, physically harming or threatening to physically harm teachers and/or students, and stealing school, students' or teachers' property at school (Gottfredson et al., 2005). It was additionally found that students and teachers were victimized less often when students perceived their school rules to be clear and fair (Gottfredson et al., 2005). To examine these relations, the authors analyzed data from schools participating in the National Study for Delinquency Prevention in Schools, which included a sample of students from 254 public middle, junior high, and high schools in urban, suburban, and rural areas of the United States (Gottfredson et al., 2005).

Based on both of the aforementioned studies, it is clear that there is a connection between students' perceptions of the safety of their school and their engagement and exposure to risky behaviors, specifically related to the violent and injurious behaviors category identified by Eaton et al. (2012). The directionality of this association, however, is unclear. The study conducted by Varjas et al. (2009) brings to light that student gender and age may also alter the connection between student perceived school safety and their

engagement and exposure to risky behaviors, which suggests that these variables are worth examining further.

Relationships

The results of a study conducted by Hamre and Pianta (2001) stress the importance of the strength of the relationships that teachers form with their students early in their schooling. According to this study, Relational Negativity (which is composed of the variables of relational conflict and dependency) with their kindergarten teachers predicts significantly students' engagement in risky behaviors through 8th grade (Hamre & Pianta, 2001). Hamre & Pianta (2001) defined risky behaviors as being related to negative work habits in lower elementary school and discipline referrals in upper elementary and middle school. In this study, the researchers first asked kindergarten teachers in a small racially diverse city school district to report on the quality of the relationships they had with their students and how they perceived each participating student's behavior at school (Hamre & Pianta, 2001). The researchers continued to collect data about participating students' behavioral functioning every year until they were in 8th grade (Hamre & Pianta, 2001). Overall, the researchers obtained information about 179 students for the full time period (Hamre & Pianta, 2001).

As was stated above, the results of this study suggest that kindergarten teachers' perceptions of their relationships with students predicted significantly students' engagement in risky behaviors through 8th grade (Hamre & Pianta, 2001). This connection was found to be strongest for students with which kindergarten teachers reported having the most Relational Negativity (Hamre & Pianta, 2001). In addition to this general finding, the researchers also found a variety of important gender differences

that influenced this general association between the quality of student-teacher relationships and risky behaviors. One such finding is that kindergarten teachers tended to perceive that they had better relationships with their female students than their male students (Hamre & Pianta, 2001). Given this finding, it is not surprising that females were found to be less likely to engage in risky behaviors than males (Hamre & Pianta, 2001). Interestingly, the authors also found that both female and male students who reportedly had greater conflict with their kindergarten teachers were more likely to engage in risky behaviors in lower and upper elementary school, but only male students who had greater conflict with their kindergarten teachers were more likely to engage in risky behaviors in middle school (Hamre & Pianta, 2001). Additionally, for students whom kindergarten teachers perceived to be dependent on them, these male students were more likely to engage in risky behaviors throughout this study, whereas these female students were not any more or less likely to engage in risky behaviors at any time period (Hamre & Pianta, 2001). When examining the closeness of the relationship between students and their kindergarten teachers, the researchers found that female students who were reportedly close to their teachers were significantly less likely to engage in risky behaviors throughout the time period in which they were measured, whereas male students were never more or less likely to engage in risky behaviors when they were perceived to have a close relationship with their teachers (Hamre & Pianta, 2001).

Based on the results of the Hamre and Pianta study (2001), it is apparent that students' engagement in risky behaviors is influenced significantly by the relationships they form with their teachers. It is additionally clear that student gender is an important

variable influencing this relationship. Overall, it appears as though positive student-teacher relationships have a stronger positive influence on female students' engagement in risky behaviors, whereas negative student-teacher relationships have a stronger negative influence on male students' engagement in risky behaviors. Given the significant length of time that students' relationships with their teachers has been shown to influence student engagement in risky behaviors in this study, it is likely that later student-teacher relationships may also influence students' engagement in risky behaviors.

Indeed, Wang et al. (2010) found that middle school students who perceived student-teacher relationships to be more positive in their school were less likely to engage in risky behaviors. The researchers' results were based on a sample of 677 6th grade students from eight different middle schools who were followed longitudinally through 8th grade (Wang et al., 2010). When student participants were in sixth grade, the authors had them complete a survey asking them about their perceptions of the academic focus of their school, the discipline and order of their school, the quality of the relationships between students at their school, and the quality of the relationships between students and teachers at their school (Wang et al., 2010). When participating students were in 7th and 8th grade, the researchers asked students to rate the level to which they engaged in a variety of risky behaviors, such as carrying a weapon, skipping school, and stealing (Wang et al., 2010).

As was stated above, students who reported having more positive relationships with their teachers were less likely to engage in risky behaviors (Wang et al., 2010). Interestingly, this connection was strongest for students when they were in 8th grade, and positive relationships between students did not influence significantly students'

engagement in risky behaviors (Wang et al., 2010). One particularly important research question that Wang et al. (2010) investigated is the directionality of the association between students' engagement in risky behaviors and the positivity of their school climate perceptions. Based on their analysis of this research question, the authors found no evidence that students' level of engagement in risky behaviors in previous years predicted their perceptions of school climate in later years, which suggests that school climate is a predictor of students' engagement in risky behaviors (Wang et al., 2010).

Beyond this finding, Wang et al. (2010) also found that as time went on, students' positive perceptions of their school's overall climate decreased. Although this result may seem surprising, Esposito (1999) found a similar pattern of results, which indicated that children's positive perceptions of their school climate declined between kindergarten and 2nd grade. Another finding of Wang et al. (2010) is similar to one found by Hamre and Pianta (2001): male students were more likely to engage in risky behaviors than were female students. Interestingly, however, Wang et al. (2010) found that as time went on, students engaged in more risky behaviors, which contradicts Varjas et al.'s (2009) findings. These findings may be contradictory, however, simply because Varjas et al. (2009) examined solely students' engagement in bullying behaviors and exposure to victimization, whereas Wang et al. (2010) examined a wider variety of risky behaviors.

Another study conducted by Spano and Nagy (2005) suggests that experiencing a low level of social isolation, an indication of having meaningful social relationships with others, can prevent rural adolescents from being victimized by others. According to Spano and Nagy (2005), population decline in an area, or a general lack of social support, can contribute to greater isolation. When this isolation increases, it becomes less likely

that people will have someone to protect them from victimization, which makes it more likely that they will be victimized (Spano & Nagy, 2005).

In order to come to these conclusions, Spano and Nagy (2005) utilized data collected from 9th and 10th grade students attending schools in rural areas. These data were collected as a part of the Alabama Adolescent survey, which aimed to monitor students' engagement and exposure to risky behaviors (Spano & Nagy, 2005). Given the authors' interest in the connection between social isolation and victimization, Spano and Nagy (2005) measured whether students had both peer and adult social supports, and whether they were physically victimized, threatened to be physically victimized, or if they had something stolen from them.

As was predicted, the authors did find that students who experienced greater social isolation were more likely to be victimized by other students (Spano & Nagy, 2005). In line with Varjas et al.'s (2009) findings, Spano and Nagy (2005) also found that older students were less likely to be victimized than younger students. On the other hand, however, the researchers did not find any gender differences in students' experiences with victimization (Spano & Nagy, 2005). Although the two aforementioned studies did find these gender differences, it is possible that the rural population of this study affected the authors' findings.

The results from these studies provide some evidence indicating that positive relationships have the potential to decrease students' chances of engaging in risky behaviors throughout their schooling. It is interesting to note, however, that when examined separately, perceived positive student-student relationships were not found to influence significantly students' engagement in risky behaviors (Wang et al., 2010). This

connection was likely not supported given that previous research has suggested that students who have positive relationships with deviant students are more likely to engage in risky behaviors, whereas students who have positive relationships with high academic achieving students are less likely to engage in risky behaviors (Kasen, Cohen, & Brook, 1998). Again, the majority of these studies support the idea that male and female students are influenced differently by their school climate, with male students appearing to be more likely to engage in risky behaviors than females overall (Hamre & Pianta, 2001; Wang et al., 2010). It is important to keep in mind, however, that the one study conducted with a rural adolescent population did not find the aforementioned gender differences, which indicates that urbanicity may affect the effects of gender (Spano & Nagy, 2005).

Teaching and Learning

In the late 1990's, various scholars supported the idea of a learning-focused systems approach to education, as opposed to the previously supported instructional-focused approach (Banathy, 1999; Kasen et al., 1998). A learning-focused approach considers the learner to be the most important aspect of a school's curriculum, whereas an instructional-focused approach considers the academic material to be the most important aspect of a school's curriculum (Banathy, 1999). Indeed, the following research suggests that a learning-focused approach is more beneficial for students' behavioral functioning than an instructional-focused approach.

Kasen et al. (1998), for example, found that students participating in a highly learning-focused environment were less likely to engage in risky behaviors. Specifically, students in a highly learning-focused environment were less likely to become pregnant or

commit and/or be convicted of a crime (Kasen et al., 1998). These researchers collected data from 452 junior and senior high school students attending 150 different schools in the urban, suburban, and rural settings of two different New York state counties (Kasen et al., 1998). The authors of this study had students complete surveys assessing their beliefs about the degree to which their school was learning-focused and the degree to which there was conflict between students and teachers at their school (Kasen et al., 1998). Additionally, to assess students' engagement in risky behaviors, the authors interviewed students and asked them to complete a survey at a later time period when they were between the ages of 19 and 25 (Kasen et al., 1998).

In addition to the above finding that students participating in a highly learning-focused environment were less likely to become pregnant or commit and/or be convicted of a crime, (Kasen et al., 1998) found that students participating in a highly conflictual learning environment were less likely to abuse alcohol or be convicted of crimes. The authors suggest that this unexpected finding may be explained by the fact that given that many of the students who attended schools with such highly conflictual learning environments were deviant in nature, those students who avoided friendships with these deviant students were deterred from engaging in the risky behaviors that they observed their deviant peers engaging in (Kasen et al., 1998). Interestingly, however, when considering student gender, the authors found that females became more likely to abuse alcohol or become pregnant, whereas males participating in a conflictual learning environment were less likely to abuse alcohol or be involved in an adolescent pregnancy (Kasen et al., 1998). Although the researchers do not provide an explanation as to why this association was found, it is possible that females are affected more negatively by a

highly conflictual learning environment than males. It should be noted, however, that this is the opposite of the connection found by Hamre and Pianta (2001).

As previous studies have shown, Kasen et al. (1998) found that male students were more likely to engage in risky behaviors than female students. Specifically, this study found that male students were more likely to commit and/or be convicted of a crime and abuse alcohol (Kasen et al., 1998). The researchers did find, however, that male students were less likely to be involved in an adolescent pregnancy (Kasen et al., 1998). The overall results of this study, therefore, suggest that gender moderates the association between students' participation in a highly learning-focused environment and their engagement in risky behaviors (Kasen et al., 1998).

In 2006, Cohen published an article calling for a learning environment that provides students with direct instruction in the areas of social and emotional learning to be present in schools. Cohen (2006) claimed that social and emotional learning programs are critical to implement in schools because they teach students how to participate in a democratic environment and achieve personal wellbeing and happiness. Since the publication of this article, much research has focused on examining whether these social and emotional learning programs do, in fact, affect students as positively as Cohen (2006) suggests they should.

A meta-analysis conducted by Durlak, Weissburg, Dymnicki, Taylor, and Schellinger (2011), for example, found that students attending schools implementing social and emotional learning programs were less likely to have behavioral problems. In their meta-analysis, the authors included studies published between 1970 and 2007 that focused on examining the outcomes of various social and emotional learning programs

with samples of typically developing students between the ages of 5 and 18 attending schools in urban, suburban, and rural areas (Durlak et al., 2011). The researchers did not include studies in their meta-analysis if they focused solely on decreasing students' engagement in risky behaviors or if they aimed to improve students' academic achievement (Durlak et al., 2011). Overall, Durlak et al. (2011) included 213 studies in their meta-analysis. Interestingly, the authors of this study found that students' age at the time of the study and the urbanicity of the area in which their school was located did not affect significantly the connection between social and emotional learning programs and students' engagement in risky behaviors (Durlak et al., 2011). The results of this meta-analysis, therefore, are the first that do not suggest that a third variable moderates the association between a dimension of school climate and students' engagement in risky behaviors.

Overall, the above research suggests that the major dimension of Teaching and Learning, is, in fact, important in predicting students' engagement in and exposure to risky behaviors. Whereas the connection between the minor dimension of Support for Learning and students' engagement and exposure to risky behaviors may be moderated by gender, Durlak et al.'s (2011) findings suggest that the association between the minor dimension of Social and Civic Learning and students' engagement and exposure to risky behaviors may not be moderated by gender. Additionally, it appears that the connection between the minor dimension of Social and Civic Learning and students' engagement and exposure to risky behaviors may not be moderated by age (Durlak et al., 2011).

Institutional Environment

The major dimension of the Institutional Environment is particularly interesting to examine because it highlights the importance of not only the relationships that students form with the people at their school, but also with the school building itself. Indeed, O'Brennan and Furlong (2010) show that middle school and high school students who have a high level of school connectedness are less likely to be victimized by other students. These researchers collected data from 1,213 8th, 10th, and 12th grade students from six middle schools and four high schools in central California. They found that students in 8th grade were more likely to be victimized by other students than 10th or 12th graders were. This finding is similar to that found by Varjas et al. (2009), which suggests that older students are less likely to be victimized by other students or bully other students physically and/or verbally. In contrast, 10th graders were found to report a lower level of connectedness with their school than both 8th graders and 12th graders (O'Brennan & Furlong, 2010). The authors suggest that this finding may be related to the fact that 8th grade and 12th grade students have been at their schools for a longer period of time, whereas 10th grade students are still new to their school (O'Brennan & Furlong, 2010). Because 8th grade students and 12th grade students have been at their respective schools for a longer period of time than 10th graders, they have likely become used to being a student at their school, which helps them to identify more strongly with it than students who have not been at their school as long as they have. Although the aforementioned results may make it seem as though school connectedness is unrelated to students' likelihood of being victimized by other students, when O'Brennan and Furlong (2010) split the 10th grade group of students into a low connectedness group and a high

connectedness group, it appeared that 10th grade students in the low connectedness group were just as likely to be victimized verbally and relationally as 8th grade students were. The results of this study, therefore, suggest that although students in lower grades are more likely to be victimized by other students, a high level of school connectedness could help to decrease this likelihood.

Research throughout the years has supported the idea that students' engagement in and exposure to risky behaviors is influenced not only by their level of connectedness with their school, but also by the way in which a school is physically constructed and organized. Kumar, O'Malley, and Johnston (2008), for example, found that students who believe that their school is physically attractive are less likely to engage in the risky behaviors of skipping school, smoking cigarettes, and using alcohol and marijuana. These researchers collected data from 27,462 8th grade students from 244 different schools, 21,920 10th grade students from 211 different schools, and 21,501 12th grade students from 200 different schools in the U.S. (Kumar et al., 2008). The authors found grade-level differences regarding the influence that an attractive physical school environment had on students' engagement in risky behaviors (Kumar et al., 2008). For 8th grade students, the researchers found that those students who attended physically attractive schools were less likely to skip school, smoke cigarettes at school, or use marijuana than those students who attended schools that were not physically attractive (Kumar et al., 2008). Tenth grade students who attended schools that were physically attractive were also less likely to use marijuana and skip school, but were additionally less likely to have abused alcohol within the month before their participation in the study and use marijuana or other drugs at school (Kumar et al., 2008). Interestingly, however,

12th grade students who attended physically attractive schools were only less likely to use marijuana at school than those 12th grade students who did not attend physically attractive schools (Kumar et al., 2008). Although it is unclear as to why a school's physical attractiveness has such a different influence on students' engagement in different risky behaviors depending on their grade, it is interesting that, similarly to the results found by O'Brennan and Furlong (2010), 10th graders are found to be at one end of an extreme (Kumar et al., 2008). It appears, therefore, that 10th graders likely have a different scholastic experience than 8th graders and 12th graders possibly because they are newer to their school than 8th and 12th graders (O'Brennan & Furlong, 2010).

Kumar et al. (2008) additionally uncovered some important findings in relation to the influence that students' gender and grade may have on their engagement in various risky behaviors (Kumar et al., 2008). In contrast with the results that have been discussed previously regarding to the connection between age/grade and students' engagement and exposure to the various types of bullying behaviors (O'Brennan & Furlong, 2010; Varjas et al., 2009), Kumar et al. (2008) found that students in higher grades are more likely to skip school, smoke cigarettes, and use alcohol and marijuana. This finding suggests that although bullying behaviors become less of a concern as students get older, drug use and truancy become more of a concern for students as they get older.

The overall results of these studies appear to suggest that the Institutional Environment that students are exposed to at their schools does affect their engagement and exposure to a variety of risky behaviors, specifically those related to victimization, truancy, and alcohol and drug use (Kumar et al., 2008; O'Brennan & Furlong, 2010). These studies also made it apparent that students' grade level has a differential effect on

the way in which students' engagement and exposure to risky behaviors are influenced by their Institutional Environment (Kumar et al., 2008; O'Brennan & Furlong, 2010). Specifically, O'Brennan and Furlong (2010) suggest that students who are in the highest grade at their school are more likely to feel connected to their school than students in lower grades at their school, whereas Kumar et al. (2008) suggest that students in lower grades at their school are more likely to be influenced by an attractive physical environment than students who are in the highest grade at their school.

Current Study

On one hand, it appears that students' perceptions of their school climate have a significant influence on their engagement in and exposure to risky behaviors, and that this association is likely moderated by students' gender and grade. On the other hand, however, much of this research focuses on children in non-rural environments. It also does not examine more than one or two areas of school climate at a time. The present study, therefore, examined whether there is a similar connection between students' perceived level of school climate, as measured by four of the five dimensions outlined by Thapa et al. (2013), and their engagement in and exposure to risky behaviors exclusively for students attending schools in rural areas. Given that Kumar et al. (2008) suggest that high school students are one group of adolescents that are at a high risk of engaging in and being exposed to certain risky behaviors, such as skipping school and using alcohol and drugs, this research question was examined with high school participants.

Hypothesis 1: An interaction was predicted between students' perceptions of their school climate, gender, and engagement and exposure to risky behaviors, such that there would be a stronger negative association between the Safety, Relationships, and Teaching

and Learning dimensions of school climate and risky behaviors for female students than male students. The expected interaction is represented graphically in Figure 1. Gender was not predicted to affect differentially the association between the Institutional Environment dimension and risky behaviors.

Hypothesis 2: Another interaction was predicted between students' perceptions of their school climate, grade, and engagement and exposure to risky behaviors, such that there would be a stronger negative association between the Safety and Institutional Environment dimensions of school climate and risky behaviors for students in lower grades than students in higher grades. This predicted association is presented below graphically in Figure 2. Students' grade was not predicted to moderate the connection between the Relationships and Teaching and Learning school climate dimensions and risky behaviors.

Figure 1
Predicted Values in Risky Behaviors among School Climate and Gender

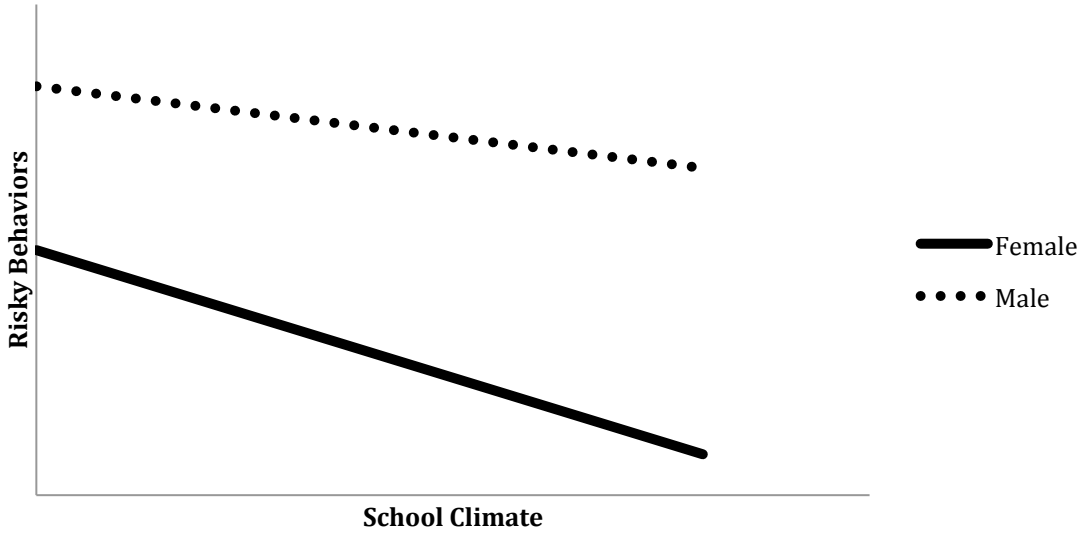
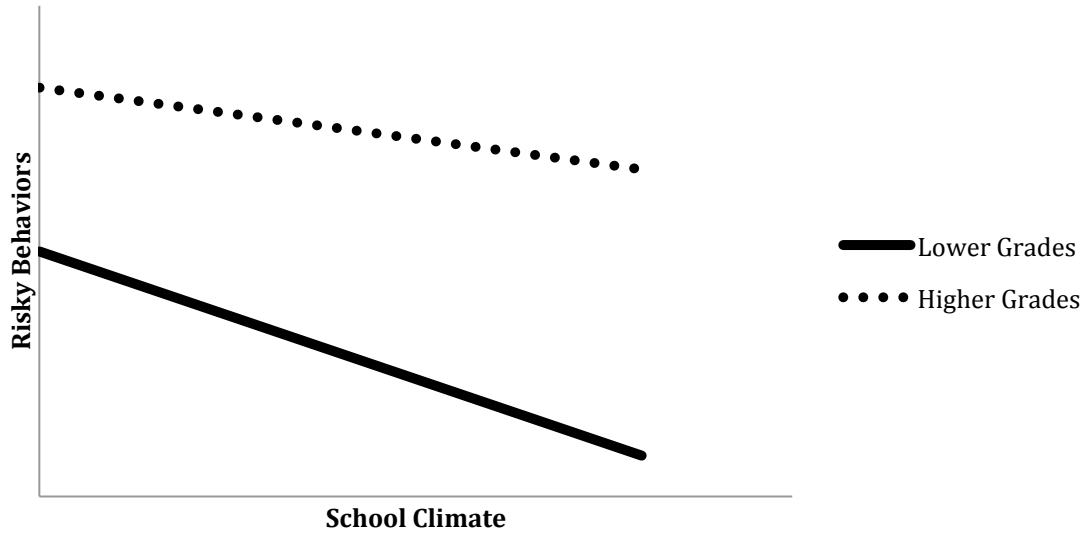


Figure 2
Predicted Values in Risky Behaviors among School Climate and Grade



Hypothesis 3: The connection between the major school climate dimension of Safety and exposure to risky behaviors was investigated in order to determine whether this association functions differently from the overall connection between the dimensions of school climate and engagement in and exposure to risky behaviors. In this study, exposure to risky behaviors was defined as victimization. An interaction was predicted between students' perceptions of their safety, gender, and victimization, such that there would be a stronger negative association between Safety and victimization for female students than male students. This predicted interaction is presented below graphically in Figure 3.

Hypothesis 4: Another interaction was predicted between students' perceptions of their safety, grade, and victimization, such that there would be a stronger negative association between Safety and victimization for students in higher grades than students in lower grades. This predicted association is presented below graphically in Figure 4.

Figure 3
Predicted Values in Victimization among Safety and Gender

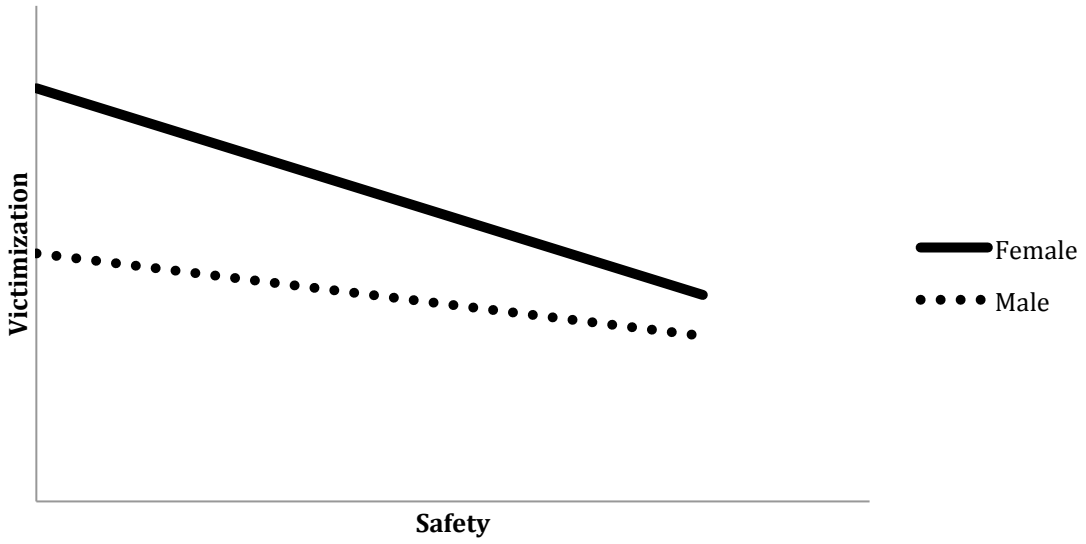
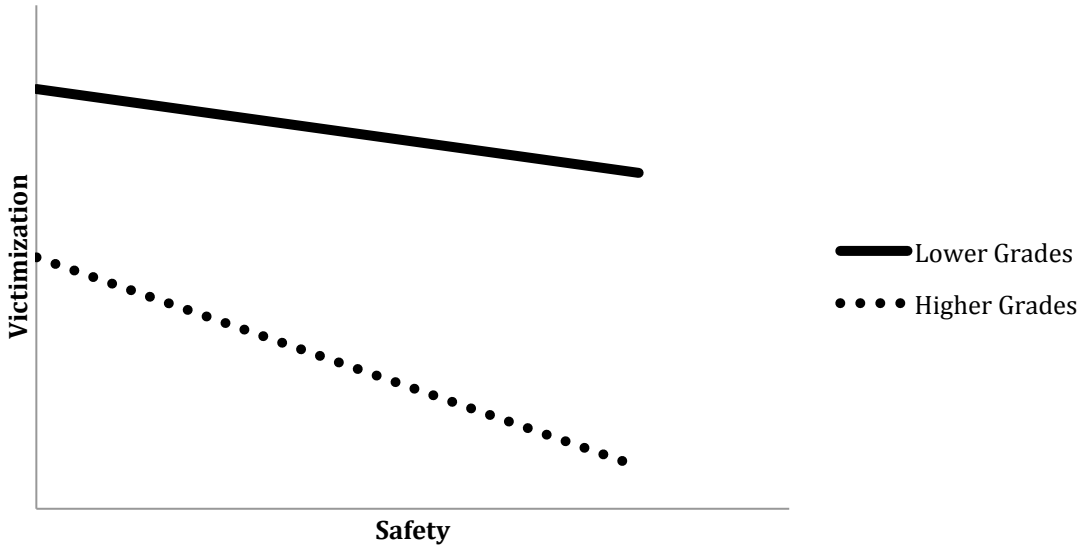


Figure 4
Predicted Values in Victimization among Safety and Grade



CHAPTER III

RESEARCH DESIGN

Method

Participants

Data were collected from 260 participants for this study (118 females). These participants included 129 ninth grade students, 60 tenth grade students, 39 eleventh grade students, and 32 twelfth grade students attending one of four high schools in a rural lower-middle class Midwestern county. Ninth grade students were overrepresented in this study because students in higher grades had less free time for data collection opportunities during the school day. The majority of participants were Caucasian (86.9%).

Design

This study had a correlational, cross-sectional design. The predictor variable for Hypothesis 1 was school climate, as measured by the major four dimensions of school climate: Safety, Relationships, Teaching and Learning, and the Institutional Environment (Thapa et al., 2013). The criterion variables for Hypothesis 1 were the following four categories of risky behavior developed based on previous research: delinquent behaviors (weapon-carrying, physical violence, and stealing), victimization, substance use (including the use of alcohol, tobacco, and marijuana), and sexual risk-taking (Varjas, Henrich, & Meyers, 2009; Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Wang, Selman, Dishion, & Stormshak, 2010; Kasen, Cohen, & Brook, 1998; O'Brennan & Furlong, 2010; Kumar, O'Malley, & Johnston, 2008). The moderator variables for

Hypothesis 1 were gender and grade. The predictor variable for Hypothesis 2 was the major school climate dimension of Safety. The criterion variable for Hypothesis 2 was the specific risky behavior of victimization. The moderator variables for Hypothesis 2 were gender and grade.

Measures

School Climate. Participants completed a school climate survey containing questions that were taken and/or adapted from three different sources. This school climate survey consisted of 36 4-point Likert-type scale items ranging from 0 (Strongly Disagree) to 3 (Strongly Agree). For this study, nine of these items assessed the Safety dimension, 8 assessed the Teaching and Learning dimension, 13 assessed the Relationships dimension, and 6 assessed the Institutional Environment dimension.

Five items from the School Supportiveness subscale from the Sense of School Community scale were taken from the Student Questionnaire (Developmental Studies Center, 2005) to assess students' perceptions of the interpersonal relationships they have with other students in their school. With the Child Development Project sample, the Developmental Studies Center (2005) obtained an internal consistency score of .82 for the Sense of School Community scale. The results of the present study produced an alpha reliability of .83 for the items utilized from the original School Supportiveness subscale. The school climate measure for this study also incorporated 17 items that were created by the researchers based on the 12 dimensions of school climate (National School Climate Center, n.d.). In the present study, alpha reliability of .85 was obtained with these items. Finally, 14 items were taken from the Chicago Students as Allies Survey for use in the school climate survey that was utilized in the current study. Although the

authors of this study did not report the reliability or the validity results of the Chicago Students as Allies Survey for their sample, the present study found the alpha reliability of these items to be .86 for the current sample. Overall, the alpha reliability of the school climate scale with this sample was .93, with the Safety scale having an alpha reliability of .79, the Relationships scale having an alpha reliability of .86, the Teaching and Learning scale having an alpha reliability of .80, and the Institutional Environment scale having an alpha reliability of .76.

Risky Behavior. Participants completed the 2011 State and Local Youth Risk Behavior Survey (Centers for Disease Control and Prevention, 2011). The Centers for Disease Control and Prevention published this survey in 2011 for use in their Youth Risk Behavior Surveillance research project. This survey asks youth to indicate how often they engage in a variety of risky behaviors, such as texting while driving, exposure to weapons, and using drugs and alcohol (Eaton et al., 2012). Brener, Kann, McManus, Kinchen, Sundberg, and Ross (2002) found that the Kappa statistics for the Youth Risk Behavior Survey ranged between 23.6% and 90.5% with a sample of 5,216 youth.

The researchers administered 13 items overall from this survey, with 2 items representing the delinquent behaviors dimension, 2 items representing the victimization dimension, 8 items representing the substance abuse dimension, and 1 item representing the sexual risk-taking dimension. These specific items are displayed in Appendix A. The researchers edited the response type of these items so that 0 indicated a 'No' response and 1 indicated a 'Yes' response. The sample in the present study yielded an alpha reliability score for the overall risky behavior scale of .75.

Procedure

The author analyzed archival data collected in the Spring of 2014 from students attending one of four high schools in a rural Midwestern county. During 30-60 minute research sessions, participants completed the school climate survey and the 2011 State and Local Youth Risk Behavior Survey at their school. Four predictor variables were computed from the school climate survey: Safety, with possible scores ranging from 0 to 27, Relationships, with possible scores ranging from 0 to 39, Teaching and Learning, with possible scores ranging from 0 to 24, and the Institutional Environment, with possible scores ranging from 0 to 18. Based on the Risky Behavior Survey, two criterion variables were computed. One was an index of the number of risky behaviors the student endorsed, which consisted of the following risky behavior dimensions: delinquent behaviors, victimization, substance use, and sexual risk-taking. Scores from this scale could range between 0 and 13. The second criterion variable was the response to questions about victimization, with possible scores ranging from 0 to 2.

CHAPTER IV

DATA ANALYSIS & RESULTS

Data Analysis

As was previously mentioned, the author conducted exploratory analyses in the form of frequency counts, descriptive statistics, and alpha reliabilities in order to determine which survey items were going to be utilized in this study and whether any of these items worked together to create distinct constructs. Cross-product multiple regression was conducted to determine whether school climate as a whole, as well as the separate major dimensions of Safety, Relationships, Teaching and Learning, and the Institutional Environment, predicted students' engagement in and exposure to risky behaviors as moderated by students' gender, age, and grade. The predictor variable for Hypothesis 1 was school climate, as measured by the following major four dimensions: Safety, Relationships, Teaching and Learning, and the Institutional Environment (Thapa et al., 2013). The criterion variables for Hypothesis 1 were the risky behavior categories of delinquent behaviors, victimization, substance abuse, and sexual risk-taking. The moderator variables for Hypothesis 1 were gender and grade. The predictor variable for Hypothesis 2 was the major school climate dimension of Safety. The criterion variable for Hypothesis 2 was the specific risky behavior of victimization. The moderator variables for Hypothesis 2 were gender and grade. It should be noted that because very few student participants were in tenth, eleventh, or twelfth grade, students in these grades

were merged into one group for the purposes of data analysis, whereas ninth graders were able to be analyzed as a group of their own.

Results

Preliminary analyses. *T*-tests examining gender differences in the hypothesized predictor and criterion variables all had significance levels above .05 ($p > .05$), which indicates that boys and girls responded similarly on each of these variables. In addition, *t*-tests examining grade level differences in the hypothesized predictor and criterion variables all had significance levels above .05 ($p > .05$), except for the *t*-test examining grade level differences in victimization ($t(217.55) = 2.73$, $p = .007$). These findings indicate that grade was not associated with student responses on any of the climate scales or the risky behavior index, except for victimization. In addition, a number of correlations were observed between the various predictor and criterion variables. These associations are presented in Table 2 below.

Table 2
Correlations Between Predictor and Criterion Variables

	1	2	3	4	5	6
1. Safety	--	.59***	.67***	.54***	-.25***	-.36***
2. Teaching & Learning		--	.79***	.67***	-.28***	-.22**
3. Relationships			--	.72***	-.35***	-.27***
4. Institutional Environment				--	-.21**	-.15*
5. Risky Behaviors					--	.54***
6. Victimization						--
Mean	17.27	13.99	22.87	11.42	2.00	.44
SD	4.23	3.68	5.87	2.95	2.21	.71
n	240	231	233	241	236	248

Note. *$p < .05$, **$p < .01$, ***$p < .001$

Chi-square tests were additionally conducted in order to compare the percentage of students in the current sample engaging in or being exposed to particular behaviors to the percentage of students in the Centers for Disease Control and Prevention's National sample from 2013. Based on these chi-square tests, it was found that significantly fewer students in the current sample reported having a physical fight in the past 12 months ($\chi^2 = 10.98$, $p < .001$), ever trying smoking ($\chi^2 = 19.20$, $p < .001$), ever having at least one drink of alcohol ($\chi^2 = 74.37$, $p < .001$), ever using marijuana ($\chi^2 = 62.31$, $p < .001$), ever using cocaine ($\chi^2 = 10.24$, $p = .001$), ever using ecstasy ($\chi^2 = 6.49$, $p = .01$), ever using hallucinogenic drugs ($\chi^2 = 10.68$, $p = .001$), taking prescription drugs without a prescription ($\chi^2 = 15.87$, $p < .001$), and ever having sexual intercourse ($\chi^2 = 30.87$, $p < .001$). In contrast, significantly more students in the current sample reported being bullied on school property in the past 12 months ($\chi^2 = 10.15$, $p = .001$). Finally, there was no evidence of significant differences between the current sample and the National sample for the reported usage of steroids without a prescription ($\chi^2 = 0.96$, $p = .33$). These findings indicate that overall, students in the current sample engage in risky behaviors less often, but are more likely to be victimized than students throughout the rest of the nation. The actual percentages of students from the current sample and the CDC's 2013 National Sample who endorsed engaging in or being exposed to each of the aforementioned risky behaviors are presented in Table 3.

In Hypotheses 1 and 2, I predicted that the following school climate dimensions: Safety, Relationships, Teaching and Learning, and the Institutional Environment would predict students' engagement in and exposure to risky behaviors, as moderated by gender and grade. Cross-product multiple regression was conducted to test these hypotheses.

Table 3
Percentage of Students Endorsing Engaging in or Being Exposed to Various Risky Behaviors

Risky Behavior	Current Study	CDC 2013 National Sample	χ^2
Physical Fight Past 12 Months	15.6%	24.7%	10.98***
Ever Tried Smoking	27.2%	41.1%	19.20***
Ever Had a Drink of Alcohol	39.8%	66.2%	74.37***
Ever Used Marijuana	15.6%	40.7%	62.31***
Ever Used Cocaine	0.8%	5.5%	10.24***
Ever Used Ecstasy	2.5%	6.6%	6.49*
Ever Used Hallucinogenic Drugs	1.7%	7.1%	10.68***
Took Prescription Drugs without Prescription	7.9%	17.8%	15.87***
Ever Had Sexual Intercourse	28.7%	46.8%	30.87***
Bullied on School Property in Past 12 Months	27.7%	19.6%	10.15***
Ever Used Steroids without Prescription	2.1%	3.2%	0.96

*$p < .05$, **$p < .01$, ***$p < .001$

Together, the four dimensions of school climate explained a significant proportion of variance in risky behaviors, $R^2 = .12$, $F(4, 199) = 6.92$, $p < .001$, although the effect size of this association was low. The results indicated, however, that when all four climate variables were entered simultaneously, only the Relationships dimension accounted for a significant amount of variance in risky behavior, $\beta = -.36$, $t(199) = -2.88$, $p < .01$. The Safety dimension ($\beta = -.06$, $t(199) = -.67$, $p = .51$), Teaching and Learning dimension ($\beta = -.01$, $t(199) = -.10$, $p = .92$), and the Institutional Environment dimension ($\beta = .10$, $t(199) = .99$, $p = .32$) did not add significantly to the variance explained. Additionally, in the second step of the regression analysis, gender and grade were entered, and neither variable explained a significant increase in variance in students' engagement in and

exposure to risky behaviors, $\Delta R^2 = .00$, $\Delta F(2, 197) = .43$, $p = .65$. In the third step of the regression analysis, the interaction terms between the dimensions of school climate and grade, as well as the interaction terms between the dimensions of school climate and gender, were entered, and there was no evidence that they explained a significant increase in variance in students' engagement in and exposure to risky behaviors, $\Delta R^2 = .04$, $\Delta F(8, 189) = 1.04$, $p = .41$. These results are displayed in Table 4.

Additionally, in Hypotheses 3 and 4, I predicted that the Safety dimension would predict students' level of victimization, as moderated by gender and grade. Cross product multiple regression was conducted to test these hypotheses. In the first step of the regression analysis, the Safety school climate dimension and grade were entered, which explained a significant proportion of variance in students' engagement in and exposure to risky behaviors, $R^2 = .15$, $F(1, 229) = 19.95$, $p < .001$, although the effect size of this association was low. In the second step of the regression analysis, gender was entered, which did not explain a significant proportion of variance in students' engagement in and exposure to risky behaviors, $\Delta R^2 = .00$, $F(1, 228) = .02$, $p = .90$. In the third step of the regression analysis, the interaction terms between the school climate dimension of Safety and grade, as well as the interaction terms between the school climate dimension of Safety and gender, were entered, and they did not explain a significant increase in variance in students' engagement in and exposure to risky behaviors, $\Delta R^2 = .01$, $\Delta F(2, 226) = .70$, $p = .50$. These results are displayed in Table 5.

Table 4
Hierarchical Multiple Regression Analysis Predicting Risky Behaviors From Four School Climate Dimensions, Gender, and Grade

Variable	*B*	*SE B*	*β*
Step 1			
Safety	-.03	.05	-.06
Teaching and Learning	-.01	.07	-.01
Relationships	-.15**	.05	-.36
Institutional Environment	.08	.08	.10
Step 2			
Safety	-.03	.05	-.06
Teaching and Learning	-.01	.07	-.01
Relationships	-.15**	.05	-.36
Institutional Environment	.08	.08	.10
Grade	.08	.30	.02
Gender	-.26	.30	-.06
Step 3			
Safety	-.17	.10	-.30
Teaching and Learning	.08	.12	.12
Relationships	-.22*	.10	-.55
Institutional Environment	.16	.16	.19
Grade	-.03	.31	-.01
Gender	-.16	.31	-.04
Safety x Grade	.17	.11	.23
Safety x Gender	.06	.11	.06
Relationships x Grade	.11	.11	.23
Relationships x Gender	-.03	.11	-.04
Teaching and Learning x Grade	-.16	.15	-.19
Teaching and Learning x Gender	.06	.15	.06
Institutional Environment x Grade	.02	.17	.02
Institutional Environment x Gender	-.17	.17	-.13

*$p < .05$, **$p < .01$

Table 5

Hierarchical Multiple Regression Analysis Predicting Victimization From Safety, Gender, and Grade

Variable	*B*	*SE B*	*β*
Step 1			
Safety	-.06***	.01	-.35
Grade	-.18*	.09	-.13
Step 2			
Safety	-.06***	.01	-.35
Grade	-.18*	.09	-.13
Gender	.01	.09	.01
Step 3			
Safety	-.06**	.02	-.35
Grade	-.18*	.09	-.13
Gender	.01	.09	.01
Safety x Grade	.01	.02	.06
Safety x Gender	-.02	.02	-.07

*$p < .05$, **$p < .01$, ***$p < .001$

CHAPTER V

DISCUSSION, LIMITATIONS, FUTURE DIRECTIONS, AND CONCLUSIONS

Discussion

Mixed results were found after testing the hypothesis that students' more positive perceptions of their school climate, as measured by the dimensions of Safety, Relationships, Teaching and Learning, and the Institutional Environment, as moderated by gender and grade, would result in their decreased engagement in and exposure to risky behaviors. Specifically, it was found that the Safety, Teaching and Learning, and Institutional Environment dimensions did not significantly predict a decrease in students' engagement and exposure to risky behaviors, whereas the Relationships dimension was found to predict significantly a decrease in students' engagement and exposure to risky behaviors. The hypothesis that gender and grade would moderate the association between the various dimensions of school climate and students' engagement in and exposure to risky behaviors was also not supported. It should be noted, however, that the association between the Safety and Teaching and Learning dimensions and students' engagement in and exposure to risky behaviors were in the expected direction, despite the fact that they did not approach significance. Interestingly, the Institutional Environment dimension was associated with students' engagement in and exposure to risky behaviors in the opposite of the hypothesized direction, although this relation also did not approach significance.

The majority of the hypotheses that were made regarding the association between the Safety school climate dimensions and victimization were supported. Specifically, I found that as students' perceptions of their Safety increased, their reports of victimization decreased significantly. I also found that students in ninth grade were significantly more likely to be victimized than students in higher grades. The hypothesis that gender and grade would moderate the association between the Safety school climate dimension and students' reports of victimization, however, was not supported.

The results of this study suggest that there may be some important differences as to which dimensions of school climate should be targeted for future intervention for rural high school students as opposed to those targeted for future intervention for urban and suburban high school students. Although previous research has suggested that students who perceive that their overall school climate is more positive are less likely to engage in or be exposed to risky behaviors, the results of the current study suggest that only students who perceived that they had more positive relationships with other students, teachers, and school staff predicts that rural high school students will engage in or be exposed to a decreased level of risky behaviors. Although this association between students' relationships and their engagement and exposure to risky behaviors mirrors the Hamre and Pianta (2001) and the Wang et al. (2010) findings regarding this association, some important differences were found between the results of the current study and the findings of the aforementioned authors.

The Hamre and Pianta (2001) finding, for example, that students' gender influenced their engagement in and exposure to risky behaviors, as well as their positive relationships, was not supported in this study. It is possible that this finding was not

supported in the current study because Hamre and Pianta (2001) administered teacher-report measures as opposed to the student self-report measures that were administered in the current study. By obtaining data from teachers, Hamre and Pianta (2001) were assessing the degree to which teachers perceived that they had positive relationships with their students and that their students engaged in risky behaviors, whereas the present study was assessing students' perceptions about their own behaviors and relationships with others. Given that teachers' perceptions of their students are likely to vary greatly from students' own perceptions of themselves, it is not surprising that these two studies produced different results. The fact that Wang et al. (2010), who utilized student self-report measures, also did not find any significant gender differences in their study supports this speculation.

Despite the similar pattern of findings between the present study and Wang et al. (2010) in this way, the present study did not replicate the grade-level differences that were found by Wang et al. (2010). One potential reason as to why these grade-level differences were not found is that the lower response rate of participants in 10th, 11th, and 12th grade in the present study. Because of the smaller number of participants in these grades, students in 10th through 12th grade were merged into one group and responses from this group were compared to those from 9th graders. Given that students from these three grades were merged into one group, any differences that may have existed between students in grades 10 through 12 were not examined. The aforementioned association between students' perceived level of Relationships and their engagement and exposure to risky behaviors is also consistent with previous research conducted by Spano and Nagy (2005), which suggests that social guardianship, an indication of having a generally high

level of attachment to others, can prevent rural adolescents from being victimized by others.

The current findings suggest that students who feel safer at their school and are in higher grades are less likely to be victimized, consistent with Varjas et al.'s (2009) results. Specifically, Varjas et al. (2009) found that older students were less likely to be victimized than younger students and that increased feelings of Safety predicted decreased reports of victimization, although they did not find that these two variables interacted. In contrast with Varjas et al.'s (2009) findings, however, the current study did not find gender differences in the degree to which students perceived they were victimized by others or the degree to which they felt safe at school. It is possible that these differences are present because Varjas et al. (2009) were examining this association in an urban setting as opposed to a rural setting. Yip, Callanan, and Yuen (2000) demonstrated that previously uncovered gender differences have not arisen when the same studies are conducted in locations that vary in culture and socioeconomic status. Given these results from the present study, it seems that it is particularly important to find a way to increase the feelings of safety of students in lower grades.

Overall, therefore, it appears that whereas there are some differences between students attending schools in rural areas and students attending schools in urban and suburban areas, there are also some similarities between them. Given that the results from the current study and from the study conducted by Spano and Nagy (2005) suggest that victimization in particular can be affected by Safety, Relationships, and social guardianship for rural adolescents, future studies should examine the specific factors of these dimensions that protect students from being victimized by others.

Limitations and Future Directions

One limitation of this study is the reliance on a convenience sample consisting of high school students attending one of four schools in one rural Midwestern county who were not attending an academic class during the time in which the researchers were at their school. Because of the use of this limited convenience sample, the researcher was unable to account for the fact that the participants attended different schools, and the results of this study can only be generalized to those high school students attending school in this particular county. School-level analyses can only be completed if data are collected from students attending a large number of different schools. Because there may be certain characteristics associated with a school, such as the number of students enrolled in each school or socioeconomic status, that could account for some of the variance in students' engagement in and exposure to risky behaviors, it is necessary to control for these school-level differences in order to be able to more confidently determine the individual-level variables, such as perceived school climate, gender, and grade, that affect an outcome variable, such as students' engagement in and exposure to risky behaviors (Cohen, Cohen, West, & Aiken, 2003). For the present study, if data were collected from students attending a greater variety of schools, analyses could have been completed to determine if factors such as a school's average perceived school climate, average socioeconomic status, or average academic achievement are influencing students' engagement in risky behaviors.

A second limitation of this study is that there was an underrepresentation of students in tenth, eleventh, and twelfth grade. Because of this underrepresentation, the researcher was unable to account for any differences that may have existed between

students in these higher grades. In future studies, researchers should recruit students in a way that will allow for them to obtain a sample that represents all grades equally.

Another limitation of this study is that many potential student participants either declined to participate in this study or did not complete all parts of the study due to the length of the surveys they were asked to complete. Because much valuable information was thus lost, future research should focus on shortening the measures that are administered to increase students' willingness to participate.

A fourth limitation of the present study is that the researcher relied solely on self-report measures in order to draw conclusions about the students participating in the study. Although participants are always asked to be honest when completing these surveys, there is no way to verify students' honesty unless teacher-report, peer-report, or parent-report measures tend to match students' responses. Given that none of these other types of measures were used in this study, the researcher simply had to assume that students were completing their surveys honestly. This lack of validation is especially concerning when considering the fact that students were asked to report on their engagement in illegal activities, such as drug use and sexual intercourse.

The cross-sectional nature of the current study presents another limitation. When researchers are looking for differences that occur for students in different grades, the best way to reduce the potential for third variables influencing the results, and therefore make it more likely to determine causality, is to conduct a longitudinal study. Doing so would allow for the examination of these variables as they relate to each other over time.

A sixth limitation of this study is that there were a large number of predictor variables relative to the number of participants, particularly for the testing of Hypotheses

1 and 2. This ratio reduces the power needed to detect an effect if it is present. Future studies with a larger same size would address this issue. Specifically, given that in this study, the Relationships dimension of school climate was the only predictor variable found to be associated with students' engagement and exposure to risky behaviors, it is possible that other aspects of students' engagement and exposure to risky behaviors are related and would be detected if there was enough power to detect these effects.

A final limitation of this study is that the researchers did not examine the relation between the minor dimensions of school climate and students' engagement in and exposure to risky behaviors. Although fewer survey items were included in this study for each minor dimension of school climate than for each major dimension of school climate, it is possible that the items for each minor dimension may hold together separately, and these minor dimensions may elicit different associations between school climate and risky behaviors. Based on Wang et al.'s (2010) finding that student-student relationships do not have an influence on students' engagement and exposure to risky behaviors, whereas student-teacher relationships do, it may be important to examine the association between the minor dimensions of the Relationships dimension and students' engagement in and exposure to risky behaviors.

Conclusions

The fact that the Safety, Teaching and Learning, and Institutional Environment dimensions did not predict students' engagement in and exposure to risky behaviors in this study suggests that another factor that was not examined in this study may be moderating the association between school climate and students' engagement and exposure to risky behaviors. This is due to the fact that when two variables are

associated in the expected direction, but this association is not significant, it is likely that an outside third variable may be affecting this association. Although these variables may be at the school level, they may also be at the student level. Lowry, Kann, Collins, and Kolbe (1996), for example, suggest that students' socioeconomic status affects their engagement in or exposure to risky behaviors. It is possible, therefore, that students' perceptions of their school climate and their engagement in and exposure to risky behaviors may interact in an important way.

Despite various limitations, this study did generate some important findings regarding the importance of relationships for the prevention of student engagement in and exposure to risky behaviors. Support for these findings comes from not only school climate literature (Wang et al., 2010), but also from child development literature (Hamre & Pianta, 2001), and sociology literature (Spano & Nagy, 2005). These findings also relate in some ways to the psychological phenomenon of the need to belong (Baumeister & Leary, 1995). The groundbreaking article published by Baumeister and Leary (1995) that led to this phenomenon suggests that all people have are fundamentally motivated to belong to some type of social group. If people are unable to form bonds with other social beings, however, Baumeister and Leary (1995) suggest that they will likely react in a highly negative manner that could result in behavioral or psychological symptoms. This research seems to be highly related to the present study, because if students are unable to feel that they belong to a social group at their school, or they have weaker relationships with other students and school staff, then they will be more likely to have behavioral symptoms, such as their engagement in risky behaviors. The overall results from the present study and the aforementioned research, therefore, suggests that if school staff can

foster positive relationships for their students, they will likely be protecting their students from being victimized by others, as well as from engaging in risky behaviors themselves.

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APPENDIX

SELECTED ITEMS FOR ANALYSIS FROM THE

2011 YOUTH RISK BEHAVIOR SURVEY

Delinquent Behaviors

16. During the past 12 months, how many times has someone stolen or deliberately damaged your property such as your car, clothing, or books **on school property**?

Ⓐ 0 times
Ⓑ 1 time
Ⓒ 2 or 3 times
Ⓓ 4 or 5 times
Ⓔ 6 or 7 times
Ⓕ 8 or 9 times
Ⓖ 10 or 11 times
Ⓗ 12 or more times

17. During the past 12 months, how many times were you in a physical fight?

Ⓐ 0 times
Ⓑ 1 time
Ⓒ 2 or 3 times
Ⓓ 4 or 5 times
Ⓔ 6 or 7 times
Ⓕ 8 or 9 times
Ⓖ 10 or 11 times
Ⓗ 12 or more times

Victimization

22. During the past 12 months, have you ever been bullied **on school property**?

Ⓐ Yes
Ⓑ No

Substance Use

29. Have you ever tried cigarette smoking, even one or two puffs?

Ⓐ Yes
Ⓑ No

40. During your life, on how many days have you had at least one drink of alcohol?

Ⓐ 0 days
Ⓑ 1 or 2 days
Ⓒ 3 to 9 days
Ⓓ 10 to 19 days
Ⓔ 20 to 39 days
Ⓕ 40 to 99 days
Ⓖ 100 or more days

46. During your life, how many times have you used marijuana?

Ⓐ 0 times
Ⓑ 1 or 2 times
Ⓒ 3 to 9 times
Ⓓ 10 to 19 times
Ⓔ 20 to 39 times
Ⓕ 40 to 99 times
Ⓖ 100 or more times

52. During your life, how many times have you used **any** form of cocaine, including powder, crack, or freebase.

Ⓐ 0 times
Ⓑ 1 or 2 times
Ⓒ 3 to 9 times
Ⓓ 10 to 19 times
Ⓔ 20 to 39 times
Ⓕ 40 or more times

57. During your life, how many times have you used **ecstasy** (also called MDMA)?

Ⓐ 0 times
Ⓑ 1 or 2 times
Ⓒ 3 to 9 times
Ⓓ 10 to 19 times
Ⓔ 20 to 39 times
Ⓕ 40 or more times

58. During your life, how many times have you used **hallucinogenic drugs**, such as LSD, acid, PCP, angel dust, mescaline, or mushrooms?

Ⓐ 0 times
Ⓑ 1 or 2 times
Ⓒ 3 to 9 times
Ⓓ 10 to 19 times
Ⓔ 20 to 39 times
Ⓕ 40 or more times

59. During your life, how many times have you taken **steroid pills or shots** without a doctor's prescription?

Ⓐ 0 times
Ⓑ 1 or 2 times
Ⓒ 3 to 9 times
Ⓓ 10 to 19 times
Ⓔ 20 to 39 times
Ⓕ 40 or more times

60. During your life, how many times have you taken a **prescription drug** (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?

Ⓐ 0 times
Ⓑ 1 or 2 times
Ⓒ 3 to 9 times
Ⓓ 10 to 19 times
Ⓔ 20 to 39 times
Ⓕ 40 or more times

Sexual Risk-Taking

63. Have you ever had sexual intercourse?

Ⓐ Yes
Ⓑ No